

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
30 June 2005 (30.06.2005)

PCT

(10) International Publication Number
WO 2005/059154 A3

(51) International Patent Classification⁷: **C12P 13/08**,
C12N 9/04, 15/53, 1/21 // (C12N 9/04, C12R 1:15)

Saarbrücken (DE). WITTMANN, Christoph [DE/DE];
Am Kalkofen 13, 66127 Saarbrücken (DE).

(21) International Application Number:
PCT/IB2004/004426

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:
17 December 2004 (17.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PCT/IB2003/006435
18 December 2003 (18.12.2003) IB

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): BASF AKTIENGESELLSCHAFT [DE/DE]; Rheinland-Pfalz, 67056 Ludwigshafen (DE).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): ZELDER, Oskar [DE/DE]; Franz-Stutzel 8, 67346 Speyer (DE). KLOPPROGGE, Corinna [DE/DE]; Diemersteinstr. 3, 67065 Ludwigshafen (DE). SCHRÖDER, Hartwig [DE/DE]; Benzstrasse 4, 69226 Nubloch (DE). HÄFNER, Stefan [DE/DE]; Luitpoldstrasse 11, 67063 Ludwigshafen (DE). KRÖGER, Burkhard [DE/DE]; Im Waldhof 1, 67117 Limburgerhof (DE). KIEFER, Patrick [DE/DE]; Am Homburg 5G, 66123 Saarbrücken (DE). HEINZLE, Elmar [DE/DE]; Senator-Richard-Becher-Strasse 48, 66123

Published:

— with international search report

(88) Date of publication of the international search report:
13 October 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHODS FOR THE PREPARATION OF A FINE CHEMICAL BY FERMENTATION

(57) Abstract: The present invention features methods of increasing the production of a fine chemical, e.g., lysine from a microorganism, e.g., *Corynebacterium* by way of deregulating an enzyme encoding gene, i.e., lactate dehydrogenase. In a preferred embodiment, the invention provides methods of increasing the production of lysine in *Corynebacterium glutamicum* by way of the expression of lactate dehydrogenase activity. The invention also provides a novel process for the production of lysine by way of regulating carbon flux towards oxaloacetate (OAA). In a preferred embodiment, the invention provides methods for the production of lysine by way of utilizing fructose or sucrose as a carbon source.

WO 2005/059154 A3